TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
MEMPHIS ENVIRONMENTAL FIELD OFFICE
8383 WOLF LAKE DRIVE
BARTLETT, TN 38133-4119
PHONE (901) 371-3000 STATEWIDE 1-888-891-8332 FAX (901) 371-3170

September 10, 2013

The Honorable Rhea Taylor
Fayette County Mayor
P.O. Box 218
Somerville, TN 38068

Re: Compliance Evaluation Inspection
Arlington Mobile Home Park Lagoon
NPDES Permit No. TN0081027
Fayette County

Dear Mayor Taylor:

I would first of all like to express to you our appreciation for Fayette County's ongoing efforts in addressing the wastewater issues at the Arlington Mobile Home Park. On Tuesday, August 20, 2013, Eddy Bouzeid with the Division of Water Resources, Memphis Environmental Field Office (DWR/MEFO), conducted a Compliance Evaluation Inspection (CEI) at the Arlington Mobile Home Park wastewater treatment facility (lagoon) in Fayette County, Tennessee. Mr. Bouzeid met with Mr. Michael Harrison, a Certified Operator with the Town of Oakland and Mr. Harvey Ellis, the Town of Oakland Utilities Director. During this meeting, the facility's self-monitoring records and reports were reviewed, and an inspection of the lagoon was conducted. Attached is the EPA Water Compliance Inspection Report which summarizes the findings of the CEI.

Due to numerous exceedances of permit limits during January and February 2013, we previously met with you and Mr. Ellis on April 25, 2013, to discuss viable treatment alternatives for bringing the system into compliance with its permit. At the time, the option of installing a decentralized treatment system was considered as the likely preferred alternative. After the meeting, on behalf of Fayette County, Mr. Ellis contacted a local engineer experienced with decentralized wastewater treatment. On June 28, 2013, DWR staff received your email indicating that Mr. Bob Conrad would be hired to develop a proposal for an alternative treatment

system. Your email also stated that the County intends to apply for a Community Development Block Grant to implement a proposed alternative.

A review of the Monthly Operation Reports (MORs) indicates that exceedances of the parameters associated with this treatment facility (lagoon) and permit continue. During the CEI, the depth of the lagoon was discussed. Personnel from the Oakland Public Works Department measured the depth of the lagoon on August 21, 2013. The lagoon was measured to only be approximately four feet in depth, which considerably limits storage capacity and treatment. Further, the location of the influent pipe was determined to be in the center of the lagoon instead of near the bank as once thought. This configuration doesn't allow enough retention time between the wastewater entering the lagoon from the influent pipe and the discharge point (outfall) of the lagoon.

It is our understanding that the County, with Mr. Conrad's assistance, is continuing to collect and analyze information regarding surrounding soil conditions to determine the feasibility of an alternative treatment system. Given recently obtained information regarding the depth of the lagoon and the location of the influent pipe, DWR would also like to recommend that the County and Mr. Conrad explore options for enhancement of the lagoon, possibly as an interim measure, while alternative treatment system options are researched.

Additionally, the following deficiencies were documented:

1) MORs have not been signed nor certified as required by Part I, Section D of the permit;
2) MORs do not contain information regarding the noncompliance status as required by Part II, Section C.2 of the permit; and
3) A sign was not posted at the outfall as required by Part III, Section B of the permit. Mr. Bouzeid advised Mr. Harrison during the CEI that a sign is required at the outfall to alert the public of the nature of the discharge. The specifications of the sign and the minimum information required on the sign are provided in Part III, Section B of the permit. Please be aware that the permit also indicates that a sign needs to be visible to the public at the receiving stream.

On or before October 4, 2013, please submit a written response to the Memphis Field Office to indicate how you plan to address items one through three listed above. The Division would also like information submitted as to the status of Mr. Conrad's research.

The Division appreciates the cooperation of Mr. Harrison and Mr. Ellis during the inspection, and the County's continuous efforts to comply with its NPDES permit. In the meantime, if you

have any questions or comments, please contact me at (901) 371-3025 or Joellyn.Brazile@tn.gov or Mr. Bouzeid at Eddy.Bouzeid@tn.gov or (901) 371-3023.

Sincerely,

Joellyn Brazile

Joellyn Brazile, CPESC
Manager
Division of Water Resources

Enclosure: Water Compliance Inspection Report

cc: TDEC/DWR/NCO, Enforcement & Compliance
TDEC/DWR/MEFO – File

ec: Mr. Harvey Ellis

United States Environmental Protection Agency
Washington, D. C. 20460

Water Compliance Inspection Report

Section A: National Data Coding (i.e., PCS)

Transaction	Code	NPDES	mo / dy / yr	Inspection Type	Inspector	FacType
1 N	2 5	3 TN0081027 11	12 082013 17	18 C	19 S	20 1

Remarks

21 66

Inspection Work Days	Facility Self-Monitoring Evaluation Rating	BI	QA	Reserved
67 5 69	70	71 N	72 N	73 74 75 80

Section B: Facility Data

Name and Location of Facility Inspected (*For industrial users discharging to POTW, also include POTW name and NPDES permit number*)
Arlington Mobile Home Park
Mellon Drive, Arlington, TN 38002

Entry Time / Date: 8/20/13 8:00 AM
Permit Effective Date: 11/1/2012
Exit Time / Date: 8/20/13 12:00 PM
Permit Expiration Date: 9/30/2017

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)
Mr. Harvey Ellis, Oakland Utilities Director
Mr. Michael Harrison, Certified Operator
P.O. Box 56
Oakland, Tennessee 38060 (901) 465-8830

Other Facility Data (*e.g., SIC NAICS, and other descriptive information*)

Name, Address of Responsible Official/Title/Phone and Fax Number
Rhea Taylor, Mayor
P.O. Box 218
Somerville, Tennessee 38068
(901) 465-5202

Contacted ☒ Yes ☐ No

Section C: Areas Evaluated During Inspection (*Check only those areas evaluated*)

☒ Permit	☒ Self-monitoring Program	☐ Pretreatment Program	☐ MS4		
☒ Records / Reports	☐ Compliance Schedule	☐ Pollution Prevention			
☒ Facility Site Review	☒ Laboratory	☐ Storm Water			
☒ Effluent / Receiving Waters	☐ Operation & Maintenance	☐ Combined Sewer Overflow			
☒ Flow Measurement	☐ Sludge Handling / Disposal	☐ Sanitary Sewer Overflow			

Section D: Summary of Findings/Comments

(*Attach additional sheets of narrative and checklists, including Single Event Violation codes, as necessary*)

SEV Codes	SEV Description
AE 00 00 11 23	Numeric Effluent Violation
	Improper/Incorrect Reporting

Name (s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	Date
Eddy Bouzeid	TDEC/DWR/MEFO (901) 371-3023 / (Fax) (901) 371-3170	September 10, 2013
Signature of Management Q A Reviewer Joellyn E. Brazile, CPESC	Agency/Office/Phone and Fax Numbers TDEC/DWR/MEFO (901) 371-3018 / (Fax) (901) 371-2170	Date September 10, 2013

Section D: Summary of Findings / Comments

On Tuesday, August 20, 2013, Mr. Eddy Bouzeid with the Division of Water Resources, Memphis Environmental Field Office (DWR/MEFO), conducted a Compliance Evaluation Inspection (CEI) at the Arlington Mobile Home Park (AMHP) treatment facility (lagoon) located in Arlington, Fayette County, Tennessee. He met with Mr. Harvey Ellis, Oakland Utilities Director and Mr. Michael Harrison, Oakland WWTP Certified Operator, and reviewed the monitoring records and discussed their self-monitoring program. The Town of Oakland, Public Works Department is acting as the treatment facility (lagoon) operator. Fayette County Government is the NPDES permitee.

Afterwards, Mr. Harrison and Mr. Bouzeid inspected the treatment facility (lagoon). The following is a summary of Mr. Bouzeid's findings and observations.

I. Permit

Coverage under NPDES permit tracking number TN0081027 for the AMHP treatment facility (lagoon) was re-issued on October 12, 2012, and became effective November 1, 2012. The permit expires on September 30, 2017. A copy of the current NPDES permit was on file.

The NPDES permit authorizes the treatment facility (lagoon) to discharge treated domestic wastewater to an unnamed tributary at mile 0.5 to Weber Branch at mile 3.0.

The design capacity of the treatment facility (lagoon) is 0.02 Million Gallons per Day (MGD). During the evaluation period from November 2012 through July 2013, the average effluent flow (calculated from the MORs) from the treatment system was 0.005 MGD and the maximum flow was 0.086 MGD, which was recorded in January 2013.

II. Records/Reports

Site records and reports for the treatment facility (lagoon) were maintained as required by the NPDES permit. Sampling and analytical data and monitoring records were complete and were available for review.

Flow records were documented and were available for review.

Monthly Operational Reports (MORs) have been submitted on time. However, upon further review of the MORs, it has been noted that the reports have not been signed, do not contain certification language as required by Part I, Section D of the permit and do not contain information regarding the noncompliance status as required by Part II, Section C.2.

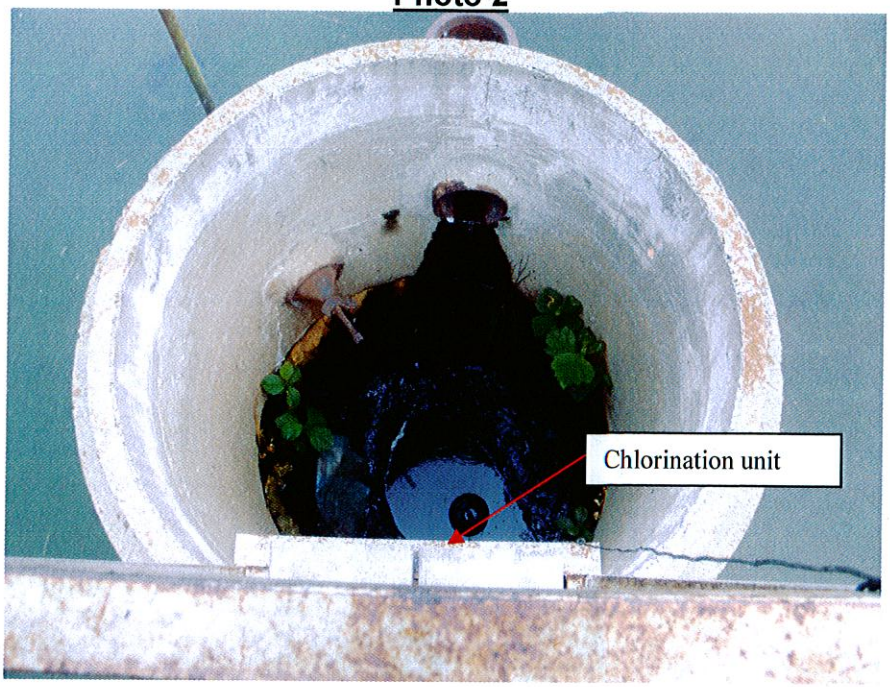
III. Facility Site Review

The Arlington Mobile Home Park treatment facility consists of a lagoon of approximately one acre (photo 1). The depth of the treatment facility (lagoon) was discussed during the inspection. Personnel from the Oakland Public Works Department measured the depth of the lagoon on August 21, 2013. The lagoon was measured to be approximately four feet in depth. The location of the influent pipe was previously determined to be in the center of lagoon instead of near the bank as once thought. According to records obtain by the Town of Oakland several years ago, 22 homes are connected to the lagoon. The effluent is chlorinated (photo 2) and should be dechlorinated (photo 3) prior to discharge. However, exceedances of Total Chlorine Residual (TCR) have been reported on the MORs.

Photo 1

View of the Arlington Mobile Home Park facultative lagoon

Photo 2



View of the concrete structure near the outfall. The chlorination unit is situated at the lower end of the structure

Photo 3

View of the outfall structure.

The wastewater treatment facility (lagoon) had numerous exceedances of its permit limits for the period from January 2013 through July 2013 (Table 1).

Table 1

January 2013

Paramater	Limit (Daily Max)	Date	Result
CBOD	30 mg/l (Nov – Apr)	January 3, 2013	66.3 mg/l
CBOD	30 mg/l (Nov – Apr)	January 17, 2013	84 mg/l
Ammonia Nitrogen	4 mg/l (Nov – Apr)	January 16, 2013	23.6 mg/l
Ammonia Nitrogen	4 mg/l (Nov – Apr)	January 22, 2013	23 mg/l
E. Coli	941 cfu/100 ml	January 16, 2013	>2419 cfu
Total Chlorine Residual	0.02 mg/l	January 1 – 31, 2013	0.06 – 2.2 mg/l
Dissolved Oxygen	6 mg/l (minimum)	January 7, 2013	4.2 mg/l
Dissolved Oxygen	6 mg/l (minimum)	January 8, 2013	4 mg/l

February 2013

Paramater	Limit (Daily Max)	Date	Result
CBOD	30 mg/l (Nov – Apr)	February 7, 2013	44 mg/l
CBOD	30 mg/l (Nov – Apr)	February 15, 2013	227 mg/l
Ammonia Nitrogen	4 mg/l (Nov – Apr)	February 6, 2013	10.7 mg/l
Ammonia Nitrogen	4 mg/l (Nov – Apr)	February 12, 2013	10 mg/l
TSS	45 mg/l	February 6, 2013	49 mg/l
TSS	45 mg/l	February 12, 2013	47.5 mg/l
E. Coli	941 cfu/100 ml	February 5, 2013	>2419 cfu
Dissolved Oxygen	6 mg/l (minimum)	February 13, 2013	5 mg/l
Dissolved Oxygen	6 mg/l (minimum)	February 27, 2013	4.9 mg/l
pH	6 - 9 SU	February 7, 2013	9.5 SU
pH	6 - 9 SU	February 11, 2013	9.1 SU
Total Chlorine Residual	0.02 mg/l	February 1 – 26, 2013	0.03 – 2.2 mg/l

March 2013

Paramater	Limit (Daily Max)	Date	Result
Ammonia Nitrogen	4 mg/l (Nov – Apr)	March 11, 2013	6.8 mg/l
Ammonia Nitrogen	4 mg/l (Nov – Apr)	March 14, 2013	8.1 mg/l
TSS	45 mg/l	March 12, 2013	48 mg/l
TSS	45 mg/l	March 14, 2013	46 mg/l
Dissolved Oxygen	6 mg/l (minimum)	March 4, 2013	5.7 mg/l
E. Coli	941 cfu/100 ml	March 20, 2013	>2419 cfu
pH	6 - 9 SU	March 19, 2013	9.6 SU
pH	6 - 9 SU	March 27, 2013	9.1 SU
Total Chlorine Residual	0.02 mg/l	March 1 – 29, 2013	0.09 – 2 mg/l

April 2013

Paramater	Limit (Daily Max)	Date	Result
CBOD	30 mg/l (Nov – Apr)	April 23, 2013	91 mg/l
CBOD	30 mg/l (Nov – Apr)	April 29, 2013	58.8 mg/l
Ammonia Nitrogen	4 mg/l (Nov – Apr)	April 4, 2013	5.6 mg/l
Ammonia Nitrogen	4 mg/l (Nov – Apr)	April 4, 2013	7.2 mg/l
TSS	45 mg/l	April 9, 2013	51 mg/l
Dissolved Oxygen	6 mg/l (minimum)	April 8, 2013	2.8 mg/l
Dissolved Oxygen	6 mg/l (minimum)	April 17, 2013	3.1 mg/l
Dissolved Oxygen	6 mg/l (minimum)	April 19, 2013	2.1 mg/l
Dissolved Oxygen	6 mg/l (minimum)	April 29, 2013	3.2 mg/l
pH	6 - 9 SU	April 18, 2013	9.5 SU
Total Chlorine Residual	0.02 mg/l	April 1 – 29, 2013	0.03 – 1.2 mg/l

May 2013

Paramater	Limit (Daily Max)	Date	Result
CBOD	20 mg/l (May – Oct)	May 30, 2013	155.8 mg/l
Ammonia Nitrogen	2 mg/l (May – Oct)	May 6, 2013	3.9 mg/l
Ammonia Nitrogen	2 mg/l (May – Oct)	May 20, 2013	4.6 mg/l
Dissolved Oxygen	6 mg/l (minimum)	May 3, 2013	3.2 mg/l
Dissolved Oxygen	6 mg/l (minimum)	May 10, 2013	4.6 mg/l
Dissolved Oxygen	6 mg/l (minimum)	May 16, 2013	1 mg/l
Dissolved Oxygen	6 mg/l (minimum)	May 17, 2013	3.4 mg/l
Dissolved Oxygen	6 mg/l (minimum)	May 20, 2013	2 mg/l
Dissolved Oxygen	6 mg/l (minimum)	May 21, 2013	2.1 mg/l
Dissolved Oxygen	6 mg/l (minimum)	May 23, 2013	2.2 mg/l
Dissolved Oxygen	6 mg/l (minimum)	May 24, 2013	2.4 mg/l
Dissolved Oxygen	6 mg/l (minimum)	May 31, 2013	2.6 mg/l
E. Coli	941 cfu/100 ml	May 6, 2013	>2419 cfu
Total Chlorine Residual	0.02 mg/l	May 1 – 31, 2013	0.03 – 2.2 mg/l

June 2013

Paramater	Limit (Daily Max)	Date	Result
Total Chlorine Residual	0.02 mg/l	June 1 – 18, 2013	0.13 – 0.32 mg/l

July 2013

Paramater	Limit (Daily Max)	Date	Result
Dissolved Oxygen	6 mg/l (minimum)	July 22, 2013	5.2 mg/l
Total Chlorine Residual	0.02 mg/l	July 22, 2013	0.25 mg/l
Total Chlorine Residual	0.02 mg/l	July 25, 2013	0.94 mg/l
Total Chlorine Residual	0.02 mg/l	July 26, 2013	0.77 mg/l
Total Chlorine Residual	0.02 mg/l	July 31, 2013	0.31 mg/l

Based on the reported exceedances in January and February 2013, on April 9, 2013, the DWR/MEFO requested a compliance status meeting to discuss alternatives to bring the treatment system into compliance with its NPDES permit. On April 25, 2013, the compliance status meeting was held at the MEFO. Fayette County Mayor Rhea Taylor and Mr. Harvey Ellis with the Town of Oakland met with DWR/MEFO staff and discussed viable treatment alternatives. The option of installing a decentralized treatment system was considered the preferred alternative and the County, in conjunction with the Town of Oakland, agreed to explore that alternative.

On June 28, 2013, DWR staff received an email from Mayor Taylor indicating that Mr. Bob Conrad would be hired to develop a proposal for an alternative treatment system.

IV. Effluent/Receiving waters

A discharge from the outfall was observed at the time of the inspection (photo 4). The discharge was clear and the odor was minimal. No outfall sign was installed at the discharge point as required by the permit. Mr. Bouzeid advised Mr. Ellis and Mr. Harrison that a sign is required at the outfall to alert the public of the nature of the discharge. The specifications of the sign and the minimum information required on the sign are provided in Part III, Section B of the NPDES permit. Please be aware that the permit also indicates that a sign needs to be visible to the public at the receiving stream.

Photo 4

View of the discharge leaving the outfall

V. Flow Measurement

The flow is recorded via weir measurements at the outfall.

VI. Self-Monitoring Program

Grab samples of the effluent are collected by Town of Oakland personnel as part of the monitoring program. According to Mr. Ellis, samples are placed in a cooler with ice and delivered immediately after collection to the Oakland sewage treatment plant (STP) laboratory for analysis.

VII. Compliance Schedule

As stated in Section E of the NPDES permit, the Arlington Mobile Home Park treatment system (lagoon) is under a compliance schedule to install equipment as necessary to comply with the Total Chlorine Residual limit of 0.02 mg/l as a daily maximum.

VIII. Laboratory

Dissolved oxygen (DO), Total Chlorine Residual, and pH are field parameters measured at the time of sample collection. The other analyses, CBOD, ammonia nitrogen, settleable solids, total suspended solids and E. Coli, are performed at the Oakland STP laboratory.

A Standard Operating Procedure (SOP) for field parameter measurement and laboratory analysis of samples was available for review at the STP laboratory. The SOP is being modified to comply with EPA 40 CFR Part 136. Mr. Harrison stated that modifications to the SOP would include sampling procedures; instructions on proper calibration of field equipment; QC procedures for equipment calibration; and QC procedures for lab analysis conducted at the plant. All analytical work is conducted according to EPA approved methods.

Calibration of the pH and DO meters was observed. The calibration of both meters was conducted at the Oakland STP laboratory. The calibration logs were also inspected and the calibrations were properly documented. Three buffers (4, 7 and 10) were utilized in the calibration of the pH meter. The DO meter was calibrated according to the instructions noted in the manufacturer's manual.

IX. Operation & Maintenance (*Not Applicable*)

X. Sludge Handling *(Not Applicable)*

XI. Pretreatment Program *(Not Applicable)*

XII. Storm Water *(Not Applicable)*

XIII. CSO / SSO (Sewer Overflow) *(Not Evaluated)*

XIV. Pollution Prevention *(Not Applicable)*

XV. Multimedia *(Not Applicable)*

XVI. Other *(Not Evaluated)*